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Title : Home ranges and movement patterns of the marine tucuxi dolphin (*Sotalia fluviatilis*) in Baía Norte, southern Brazil.

Category : Ecology

Student : Not Applicable

Preferred Format : Poster Presentation

Abstract : Marine tucuxi dolphins (*Sotalia fluviatilis*) have been studied in Baía Norte, (27°30'S and 48°31'W), southern Brazil, since 1993. Photoidentification and GIS methods were applied to assess home ranges during 1996-2002 and daylight movement patterns in 2001-02 (mean = 2:16h of focal group sampling, evenly distributed throughout seasons). Overall home range was small averaging 13,38km² using the Minimum Convex Polygon (MCP) method and 15,22km² through the kernel estimator, with no differences between the two methods (Mann-Whitney U, test, $p = 0.898$). Daylight movement patterns was consistent in water depths around 3m. Movement or distance traveled ranged from 0,164 to 24,9 km/day (mean = 5,35 km/day, SD = 4,89) with mean rate of movement of 2,4km/h (SD = 1,6). Movement patterns varied seasonally with higher values of distance traveled and rate of movement in winter and autumn, maybe reflecting prey abundance and movements as well as environmental conditions. The marine tucuxi home ranges and daylight distance moved as well as rate of movement presented here are smaller than much of what is known to other coastal small cetaceans. The percentage of home ranges within the limits of the protected area designed earlier in 1992 to the tucuxis could be considered moderate to high depending on the estimator used (means 5,90km² or 54,06% by MCP and 11.35km² or 74,71% using the kernel). Nevertheless, core areas at both 50% and 25% utilization distribution levels by kernel estimator are completely within the protected area. Conservation implications of these findings are recommended, including: (i) creating a buffer zone southern to the existing protected area which encompassing the overall home range of the tucuxis; (ii) regulating boat traffic and aquaculture farming in important areas which are not yet given specific regulations; and (iii) establishing constant, adequate enforcement of fishery and boat traffic regulations.